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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,837	10/22/2001	Su Seok Choi	054358-5009	8389

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT PAPER NUMBER

2871

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

81

9/2

<b>Office Action Summary</b>	<b>Application No.</b> 09/982,837	<b>Applicant(s)</b> CHOI ET AL.	
	<b>Examiner</b> Tarifur R Chowdhury	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☒ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Korea on 10/20/2000. It is noted, however, that applicant has not filed a certified copy of the 61968/2000 application as required by 35 U.S.C. 119(b).

### *Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

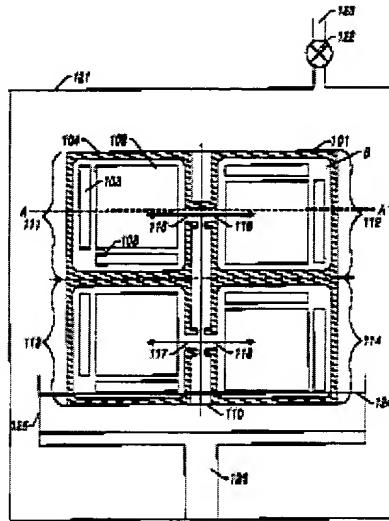
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 3-7 and 11-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki et al., (Yamazaki), USPAT 6,099,672.**

5. Yamazaki discloses and shows in Figs. 1 and 2, a liquid crystal display device comprising:

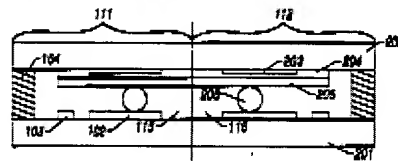
- a thin film transistor substrate (201), on which a plurality of data lines and gate lines are positioned perpendicular to each other;
- a plurality of pixel electrodes (102) formed near intersections of the data lines and the gate lines;
- a color filter substrate (202) positioned parallel to the thin film transistor

U.S. Patent Aug. 6, 2000 Sheet 1 of 4 6,099,672



**FIG. 1**

U.S. Patent Aug. 8, 2000 Sheet 1 of 4 6,099,673

**FIG. 2**

substrate (201), including a color filter layer (203), a black matrix and a common electrode (205) formed thereon;

- a polymer wall arrangement formed on the thin film transistor substrate dividing the substrate into a plurality of liquid crystal panels (col. 4, lines 1-6); and
- at least one liquid crystal injection opening formed on each panel of the plurality of liquid crystal panels

Further, it is clear from Fig. 1 of Yamazaki that at least one polymer wall is formed parallel to a side of the substrate.

Yamazaki also shows that spacer (206) is formed in the substrate.

Yamazaki discloses that the liquid crystal materials are injected through the injection opening by using vacuum injection method (col. 3, lines 28-31).

Accordingly, claims 1, 2-7 and 11-19 are anticipated.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**8. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Ma et al., (Ma), USPAT 6,285,434.**

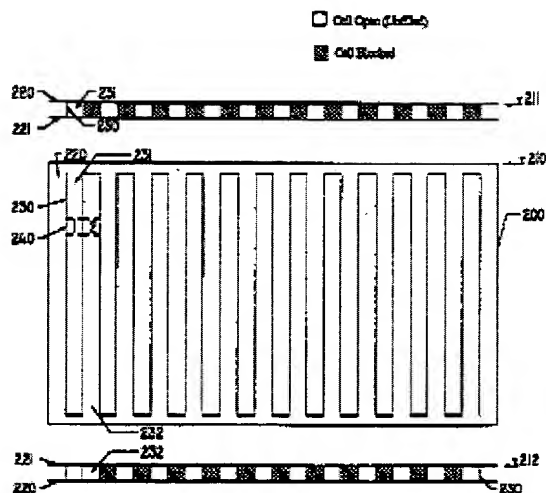
9. The AAPA described in the present application discloses and shows in Fig. 1, a liquid crystal display device comprising:

- a thin film transistor substrate (20), on which a plurality of data lines (23) and gate lines (22) are positioned perpendicular to each other;
- a plurality of pixel electrodes (25) formed near intersections of the data lines and the gate lines;

- a color filter substrate (10) positioned parallel to the thin film transistor substrate (20), including a color filter layer (12), a black matrix 913) and a common electrode (14) formed thereon;

The AAPA described in the present application differs from the claimed invention because it does not explicitly disclose the claimed polymer wall arrangement that is dividing the substrate into a plurality of liquid crystal panel and that at least one liquid crystal injection opening is formed on each panel of the plurality of liquid crystal panels.

Ma discloses a liquid crystal display device including a polymer wall arrangement that is dividing the substrate into a plurality of liquid crystal panels and each panel has at least one liquid crystal injection opening (col. 2, lines 5-10; col. 4, lines 36-38). Ma also discloses that such an arrangement is advantageous since it enhances manufacturability (col. 2, lines 11-12).



**FIGURE 2**

Ma is evidence that ordinary workers in the art of liquid crystal would find a

Art Unit: 2871

reason, suggestion or motivation to form polymer wall arrangement on the substrate of the AAPA so that plurality of liquid crystal panels are formed and form at least one injection opening on each of the panels so that manufacturability is enhanced, as per the teachings of Ma.

Further, since the method of manufacturing the device is merely a list of forming each component and each component must be formed to make the device, the method of manufacturing would be inherent to the device. Further, vacuum injection method is common and known in the art and thus would have been obvious to use to avail a proven method.

Accordingly, claims 1-19 would have been obvious.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) USPAT 6,195,149 is related to method for producing a liquid crystal panel by forming a plurality of liquid crystal sealing-in areas between a transparent pair of large substrates and dividing the liquid crystal sealing-in areas into separate liquid crystal sealing-in areas.

b) USPAT 6,137,559 is related to manufacturing a liquid crystal panel using an airtight seal pattern.

c) USPAT 6,095,203 is related to a method and apparatus for injecting liquid crystal material.

Art Unit: 2871

d) USPAT 5,667,749 is related to a method of injecting liquid crystal that is capable of providing a high quality display and a display with uniform cell thickness.

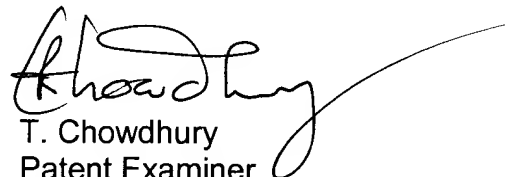
e) USPAT 5,410,423 is related to a method of making a liquid crystal panel using a dummy seal pattern.

f) JP 10-319416 discloses a method of injecting liquid crystal by forming a plurality of opening parts for a sealing material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (703) 308-4115. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William L Sikes can be reached on (703) 305-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7005 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

  
T. Chowdhury  
Patent Examiner  
Technology Center 280

TRC  
March 12, 2003